

Hoffman (W. J.)

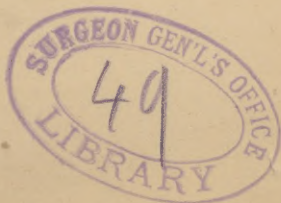
From the Proceedings of the Boston Society of Natural History, Vol. XVIII,
Dec. 15, 1875, pp. 209—212.

ANCIENT HEARTHES AND MODERN INDIAN REMAINS IN THE
MISSOURI VALLEY. BY W. J. HOFFMAN, M. D.

ANCIENT HEARTHES.

The Military Station at Grand River, D. T., is situated upon the western bank of the Missouri River about midway between Fort Sully and Fort Rice: approximate location, long. $100^{\circ} 12' W.$, lat. $45^{\circ} 31' N.$ About three hundred yards from the river the bottom-land is walled in by a range of bluffs, about one hundred and twenty feet in height, the upper surface of which corresponds to the level of the surrounding prairie. Three quarters of a mile below the station, Oak Creek empties into the Missouri River, thus forming a low head-land or spur, the ridge of which still bears evidence of aboriginal occupancy. Grand River empties into the Missouri from the west also, three miles below the station, where the Mound Builders once threw up earthworks, traces of which are still visible.

During the spring flood of 1873 about twelve feet of the embankment at the station was washed away, exposing to view two distinct river beds. The height of the embankment is twenty-two feet. The upper stratum, which was composed chiefly of sand and gravel, was ten feet thick, resting upon the fine sand of the upper surface of the second stratum. Throughout the bottom of the upper stratum was deposited an indiscriminate mixture of branches, trunks and stumps of trees, consisting chiefly of cottonwood, oak and cedar. The second stratum was six feet thick, also consisting of coarse sand and gravel,



terminating upon the upper surface of a third layer of sand, upon which rested a thin layer of fine charcoal, and larger fragments of charred wood. The sand upon which the fire had been built was reddened by the heat to the depth of an inch and a quarter ; the overlying layer retaining the natural tint, appearing as if the fire had been suddenly extinguished. The extent of the layer of ashes (or fine charcoal) was about five feet in diameter, around which, at irregular intervals, lay a number of dark blue silicious stones, also reddened by oxidation on those sides facing the fire. Quite a number of fragments of chipped quartzite lay scattered above and below this hearth, in the same seam. About eighty yards up the river, another seam of charred wood and ashes was exposed, also showing the red and burnt condition of the gravel underlying it. It is a difficult matter to advance any theory as to the age of these hearths. When the station was established seven or eight years ago, the whole valley was covered with heavy timber. Stumps of cottonwood, sycamore and oak, found standing nearly over the hearths, measured over four feet in diameter, and trees of equal size are still flourishing both above and below the station.

The bluffs, which belong to the cretaceous formation, are filled with fossil bivalves, and in several localities we find beds of dark blue plastic clay, containing fossils, prominent amongst which are the *Nautilus Dekayi* and *Ammonites Placenta*, which are found mixed with the drift detritus from the plains ; these are found in the upper stratum only, as the second stratum, at the bottom of which the hearths lay, was probably deposited when the river's course lay near the opposite banks, where the cretaceous rocks do not protrude ; it is well known that rivers continually tend to shift their courses. For a distance of five miles on either side of the station the valley is comparatively straight, but within it the river winds considerably. Lyell¹ says of the Somme, when, in one of its curves, the current crosses " its general line of descent, it eats out a curve on the opposite bank, or in the side of the hills bounding the valley, from which curve it is turned back again at an equal angle, so that it recrosses the line of descent, and gradually hollows out another curve lower down in the opposite bank," till the whole sides of the valley " present a succession of salient and retiring angles."

The river is also working a deeper bed which is apparent ; but what length of time was consumed in depositing these strata of sand

¹ Lyell's Principles, p. 206.

and gravel, and the changing of its course from the western to the eastern side of the valley is difficult of determination. During the season of floods, ice gorges have been formed in the main channel, which caused the water to take a new course, which in a short period became the navigable current, thus leaving an island as it were, between the old and new courses, as appears to have been the case at Grand River. Mounds and other primitive earthworks occur from Bonhomme Island to the mouth of the Yellowstone, and up that river for a distance of over three hundred miles. There are no mounds or ancient earthworks in the immediate vicinity of the settlement, except the one at Grand River, which has been described by Mr. A. Barrandt, in the Smithsonian Report for 1870, p. 406.

MODERN REMAINS.

Modern remains exist showing that the bluffs and prairie were once the home of a powerful tribe. Many of the Sioux are still living, who, with their tribe, in moving up the Missouri River reached that point where the military station is now located, and found a tribe with whom they engaged in battle. After an engagement lasting four days, the Sioux were victorious and drove the conquered people up the river as far as the present sites of Forts Berthold and Stevenson. This occurred in the year 1818.

All that remains of the Ree villages,— for this was the tribe,— are immense numbers of low mounds, scattered, or in groups, and extending along the bluffs over an area of several miles either way. The most southern point occupied, was the spur formed by the union of Oak Creek and the Missouri River. This group covers an area of nearly an acre, and is surrounded by a ditch, which was originally six feet wide, and two or three feet deep. Portions of the ditch have become indistinct by filling up with the drift material from the surrounding prairie. The mounds are usually from three to six feet in diameter, and sometimes reach from twelve to fifteen feet in height, although the majority of them are nearly leveled and would be overlooked by a casual observer.

They are composed of hard mud— no doubt at one time adobe, sand, fragments of quartzite, jasper, agate and chalcidony, pieces of broken pottery, but more especially of bones, amongst which I found those of the buffalo in excess; also elk, antelope, bear, and smaller bones, especially those of the Rodents and aquatic birds, with scales of

the sturgeon. After digging down to the depth of about two feet, the splinters of bone were more numerous than on the surface, and in not a single instance have I found any bones that had been subjected to the effects of fire, but the marrow had been removed by splitting the bones with a stone or maul, as no indentations, such as would be caused by an edged tool, were visible.

None of the fragments of pottery indicated that any large vessels had been used, but some of the designs corresponded precisely with specimens obtained near the Rio Verde, Arizona. The latter are usually glazed, an art which seems to have been unknown to the Rees at that time. The texture of these specimens is rather fine, and the color usually dark; the indentations have been made with a small piece of wood, although in some of the ornamentation the fingers were employed, as the five impressions show. The pottery does not seem to have been baked, but sun-dried; this, however, is merely a matter of conjecture, as the condition of the specimens after long exposure has become considerably changed. Arrow-heads and kindred flints were abundant. The smallest arrow points measured but .4 of an inch in length, the typical form being triangular. The finest point was one made of black silicious rock, three inches long, and three quarters of an inch wide. It was knife-shape, *i.e.*, rounded at the one end like the blade of a common table knife, and elegantly notched at the base.

Bone implements were not rare; the finest piece of workmanship being a fish-hook only an inch in length, and finely notched for attachment to the line. These specimens were no doubt preserved from decomposition by the dryness of the sandy soil covering many of these refuse heaps, and the dry atmosphere common over the country between the Missouri River and the Rocky Mountains.